WHAT IS CLAIMED IS:

1. A method for treating a mammal having non-invasive fungus-induced rhinosinusitis, comprising directly mucoadministering to at least a portion of the nasal-paranasal anatomy of said mammal a formulation in an amount, at a frequency, and for a duration effective to reduce or eliminate said non-invasive fungus-induced rhinosinusitis, said formulation comprising an antifungal agent.

2. The method of claim 1, wherein said mammal is a human.

3. The method of claim 1, wherein said mammal is nonatopic.

4. The method of claim 1, wherein said mammal is immunocompetent.

5. The method of claim 1, wherein said non-invasive fungus-induced rhinosinusitis is characterized by polyp formation or polypoid change.

6. The method of claim 1, wherein said non-invasive fungus-induced rhinosinusitis is chronic.

7. The method of claim 1, wherein said formulation is in a solid, liquid, or aerosol form.

8. The method of claim 1, wherein said formulation is in a form selected from the group consisting of a powder, crystalline substance, gel, paste, ointment, salve, cream, solution, suspension, partial liquid, spray, nebulae, mist, atomized vapor, aerosol, and tincture.

9. The method of claim 1, wherein said direct mucoadministration comprises irrigating said nasal-paranasal anatomy with a liquid form of said formulation.

10. The method of claim 1, wherein said direct mucoadministration comprises applying an aerosol form of said formulation to said nasal-paranasal anatomy.

11. The method of claim 1, wherein said direct mucoadministration comprises applying a powder form of said formulation to said nasal-paranasal anatomy.

12. The method of claim 1, wherein said antifungal agent comprises a macrolide.

13. The method of claim 1, wherein said antifungal agent comprises an azole.

14. The method of claim 1, wherein said antifungal agent interpolates fungal cell wall components.

15. The method of claim 1, wherein said antifungal agent comprises a sterol inhibitor.

16. The method of claim 1, wherein said antifungal agent comprises an antifungal agent selected from the group consisting of amphotericin B, ketoconazole, itraconazole, saperconazole, voriconazole, flucytosine, miconazole, fluconazole, griseofulvin, clotrimazole, econazole, terconazole, butoconazole, oxiconazole, sulconazole, ciclopirox olamine, haloprogin, tolnaftate, naftifine,

terbinafine hydrochloride, morpholines, nystatin, natamycin, butenafine, undecylenic acid, Whitefield's ointment, propionic acid, and caprylic acid.

17. The method of claim 16, wherein said antifungal agent comprises an antifungal agent selected from the group consisting of amphotericin B, ketoconazole, itraconazole, saperconazole, and voriconazole.

18. The method of claim 16, wherein said antifungal agent comprises amphotericin B.

19. The method of claim 16, wherein said antifungal agent comprises itraconazole.

20. The method of claim 1, wherein said formulation comprises a pharmaceutically acceptable aqueous vehicle.

21. The method of claim 20, wherein said formulation comprises about 0.01 ng to about 1000 mg of said antifungal agent per liter.

22. The method of claim 21, wherein said effective amount comprises about 0.01 mL to about 1 L of said formulation per nostril of said mammal.

23. The method of claim 21, wherein said effective amount comprises about 5 mL to about 100 mL of said formulation per nostril of said mammal.

24. The method of claim 21, wherein said effective amount comprises about 20 mL of said formulation per nostril of said mammal.

25. The method of claim 20, wherein said formulation comprises about 1 ng to about 500 mg of said antifungal agent per liter.

26. The method of claim 20, wherein said formulation comprises about 100 mg of said antifungal agent per liter.

27. The method of claim 1, wherein said formulation comprises a plurality of antifungal agents.

28. The method of claim 1, wherein said effective amount of said formulation comprises about 0.01 ng to about 1000 mg of said antifungal agent per kg of body weight of said mammal.

29. The method of claim 1, wherein said effective amount of said formulation comprises about 1 ng to about 500 mg of said antifungal agent per kg of body weight of said mammal.

30. The method of claim 1, wherein said effective amount of said formulation remains constant during said effective duration.

31. The method of claim 1, wherein said effective frequency of said direct mucoadministration is from about four times a day to about once every other week.

32. The method of claim 1, wherein said effective frequency of said direct mucoadministration is from about twice a day to about once a week.

33. The method of claim 1, wherein said effective frequency of said direct mucoadministration is more frequent than once a day.

34. The method of claim 1, wherein said effective frequency of said direct mucoadministration is more frequent than once a week.

35. The method of claim 1, wherein said effective duration is greater than about 7 days.

36. The method of claim 1, wherein said effective duration is greater than about 14 days.

37. The method of claim 1, wherein said effective duration is greater than about 30 days.

38. The method of claim 1, wherein said effective duration is greater than about 60 days.

39. The method of claim 1, wherein said effective duration is greater than about 90 days.

40. The method of claim 1, wherein said formulation comprises a compound selected from the group consisting of pharmaceutically acceptable aqueous vehicles, pharmaceutically acceptable solid vehicles, mucolytic agents, antibacterial agents, anti-inflammatory agents, immunosuppressants, dilators, vaso-constrictors, steroids, and therapeutic compounds.

41. The method of claim 1, wherein said method comprises administering to said mammal a second formulation.

42. The method of claim 41, wherein said second formulation comprises a compound selected from the group consisting of antifungal agents, pharmaceutically acceptable aqueous vehicles, pharmaceutically acceptable solid vehicles, mucolytic agents, antibacterial agents, anti-inflammatory agents, immunosuppressants, dilators, vaso-constrictors, steroids, and therapeutic compounds.

43. The method of claim 1, said method comprising, after said direct mucoadministration, prophylactically mucoadministering to said mammal a prophylactic formulation in an amount, at a frequency, and for a duration effective to prevent said non-invasive fungus-induced rhinosinusitis, said prophylactic formulation comprising an antifungal agent.

44. The method of claim 43, wherein said prophylactic mucoadministration comprises direct mucoadministration.

45. A method for prophylactically treating a mammal at risk for developing non-invasive fungus-induced rhinosinusitis, comprising mucoadministering to said mammal a formulation in an amount, at a frequency, and for a duration effective to prevent said non-invasive fungus-induced rhinosinusitis, said formulation comprising an antifungal agent.

46. A method for treating a mammal having a non-invasive fungus-induced rhinosinusitis, comprising the steps of:

a) identifying said mammal, and

b) directly mucoadministering to at least a portion of the nasal-paranasal anatomy of said mammal a formulation in an amount, at a frequency, and for a duration effective to reduce or eliminate said non-invasive fungus-induced rhinosinusitis, said formulation comprising an antifungal agent.

47. The method of claim 46, wherein said identifying comprises diagnosing.

48. A method for prophylactically treating a mammal at risk for developing non-invasive fungus-induced rhinosinusitis, comprising the steps of:

a) identifying said mammal, and

b) mucoadministering to at least a portion of the nasal-paranasal anatomy of said mammal a formulation in an amount, at a frequency, and for a

duration effective to prevent said non-invasive fungus-induced rhinosinusitis, said formulation comprising an antifungal agent.

49. An article of manufacture, comprising packaging material and a formulation contained within said packaging material, wherein said formulation comprises an antifungal agent and wherein said packaging material comprises a label or package insert indicating that said formulation can be directly mucoadministered to at least a portion of the nasal-paranasal anatomy of a mammal having non-invasive fungus-induced rhinosinusitis in an amount, at a frequency, and for a duration effective to reduce or eliminate said non-invasive fungus-induced rhinosinusitis.

50. An article of manufacture, comprising packaging material and a formulation contained within said packaging material, wherein said formulation comprises an antifungal agent and wherein said packaging material comprises a label or package insert indicating that said formulation can be mucoadministered to at least a portion of the nasal-paranasal anatomy of a mammal at risk for developing non-invasive fungus-induced rhinosinusitis in an amount, at a frequency, and for a duration effective to prevent said non-invasive fungus-induced rhinosinusitis.

51. An antifungal formulation comprising an antifungal agent, a flavoring, and water, wherein said water comprises at least about 50 percent of said formulation.

52. The antifungal formulation of claim 51, wherein said water comprises at least about 75 percent of said formulation.

53. The antifungal formulation of claim 51, wherein said water comprises at least about 85 percent of said formulation.

54. An antifungal formulation comprising an antifungal agent, a flavoring, and water, wherein said water comprises at least about 50 percent of said formulation, and wherein said antifungal agent comprises an antifungal agent selected from the group consisting of amphotericin B, ketoconazole, saperconazole, voriconazole, flucytosine, miconazole, fluconazole, griseofulvin, clotrimazole, econazole, terconazole, butoconazole, oxiconazole, sulconazole, ciclopirox olamine, haloprogin, tolnaftate, naftifine, terbinafine hydrochloride, morpholines, nystatin, natamycin, butenafine, undecylenic acid, Whitefield's ointment, propionic acid, and caprylic acid.

55. An antifungal formulation comprising itraconazole and water, wherein said itraconazole is dissolved in said formulation at a concentration greater than about 25 μg per mL and wherein said water comprises at least about 50 percent of said formulation.

56. The antifungal formulation of claim 55, wherein said formulation comprises polyethylene glycol.

57. The antifungal formulation of claim 55, wherein said formulation comprises a flavoring.

58. An antifungal formulation comprising itraconazole and water, wherein said itraconazole is suspended in said formulation at a concentration greater than about 25 μg per mL and wherein said water comprises at least about 50 percent of said formulation.

59. A method of making an antifungal formulation, said formulation comprising itraconazole and water, wherein said itraconazole is dissolved in said formulation at a concentration greater than about 25 μg per mL and wherein said

water comprises at least about 50 percent of said formulation, said method comprising adding said water to a stock solution containing said itraconazole.

60. A method for culturing fungus from a mammal's mucus, said method comprising:

a) contacting said mucus with a mucolytic agent to reduce the viscosity of said mucus,

b) separating said fungus from said reduced-viscosity mucus,

c) contacting said separated fungus with fungus growth medium to form a fungus culture, and

d) incubating said fungus culture such that said separated fungus grows.

61. A method for obtaining a fungal antigen, said method comprising:

a) contacting a mammal's mucus with a mucolytic agent to reduce the viscosity of said mucus,

b) separating fungus from said reduced-viscosity mucus,

c) contacting said separated fungus with fungus growth medium to form a fungus culture,

d) incubating said fungus culture such that said separated fungus grows, and

e) isolating said antigen from said cultured fungus.

62. A method for producing a fungus-specific antibody, said method comprising:

a) contacting a mammal's mucus with a mucolytic agent to reduce the viscosity of said mucus,

b) separating fungus from said reduced-viscosity mucus,

c) contacting said separated fungus with fungus growth medium to form a fungus culture,

d) incubating said fungus culture such that said separated fungus grows,

e) isolating a fungal antigen from said cultured fungus, and

f) immunizing an animal with said fungal antigen to produce said antibody.

63. A nasal mucus collecting apparatus, comprising:

a) a collection retainer, said collection retainer being suitable for retaining mucus,

b) a collection tube extending from said collection retainer, wherein said collection tube defines a distal end and a lumen such that mucus can traverse said lumen from said distal end of said collection tube to said collection retainer, said collection tube being generally flexible over at least a portion of the length of said collection tube such that said collection tube can be selectively manipulated into a desired configuration by a practitioner during a collection procedure, said collection tube further being generally malleable such that said collection tube generally retains said desired configuration until the practitioner manipulates said collection tube to conform to a different configuration, and

c) a connecting portion extending from said collection retainer, wherein said connecting portion defines a second lumen that communicates with the interior of said collection retainer, said connecting portion being adapted to receive a vacuum source.

64. The apparatus of claim 63, wherein said apparatus comprises a valve that adjusts the opening of said second lumen.

65. The apparatus of claim 63, wherein said collection retainer is removable from said collection tube and said connection portion.

66. A pharmaceutical composition comprising an antifungal agent and a mucolytic agent.

67. A pharmaceutical composition comprising an antifungal agent and a decongestant.

68. A pharmaceutical composition comprising an antifungal agent and an antibiotic.

69. A pharmaceutical composition comprising an antifungal agent and an anti-inflammatory.